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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,920	12/29/2000	Arne Simonsson	040010-906	6815

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ERICSSON INC.
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EXAMINER

PAN, YUWEN

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 04/08/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/749,920

Applicant(s)

SIMONSSON ET AL.

Examiner

Yuwen Pan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25,27-57 and 59-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-32 and 59-64 is/are allowed.
- 6) ☒ Claim(s) 1,2,10-25,33,34 and 42-57 is/are rejected.
- 7) ☒ Claim(s) 3-12 and 35-44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Response to Arguments

1. Applicant's arguments with respect to claims 1, 10, 33, and 42 have been considered but are moot in view of the new ground(s) of rejection.

Per claim 1 and 33, the applicant argues that Whinnet's reference just teaches to measures the "quality of the communications for each active uplink during a time frame M." But, Whinnet doesn't teach whether a communication link is subject to a Rayleigh fading dip as applicant addressed in claim 1 and 33. Also The applicant contends that "[a]dverse quality can stem from a number of reasons, including poor power levels, weather conditions, scatter, Rician fading, Nakagami fading, and Rayleigh fading." Therefore, the applicant argues that Whinnett doesn't teach all of the claim elements. The examiner respectfully disagrees because the applicant admits that the determination of communication quality based on numerous parameters and Rayleigh fading is one of them. And one ordinary skill in the art knows that it is inevitable that a communication link is subject to a Rayleigh fading because of near objects such as building, ground, moving cars in which reflects the communication signals.

DETAILED ACTION

Claim Objections

2. Claims 9, 12-25, 41,44-57 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,10, 11, 33, 42, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Whinnett et al (US005625875).

With respect to claims 1 and 33, Whinnett discloses a method and apparatus for improving reliability and communication quality in a cellular radio communication system which includes at least a first radio base station having associated radio channels with uplinks and downlinks using different carrier frequencies (see column 1 and line 54-column 2 and line 14), comprising:

Determining whether one of a first uplink or a first downlink of a first radio channel is subject to a Rayleigh fading dip, the first radio channel being used during a current communication segment for communications between the first radio base station and a first radio terminal; and determining whether to execute a countermeasure in order to counteract the negative influences of Rayleigh fading dip, if it is determined that one of the first uplink or the first downlink is subject to a Rayleigh fading dip (see column 3 and lines 20-38, column 4 and 10-55).

With respect to claims 10 and 42, Whinnett further discloses the determining of whether one of the first uplink or the first downlink is subject to a Rayleigh fading including:

Obtaining a quality estimate of the first uplink (see column 3 and lines 20-23);

Determining a quality estimate of the quality estimate of the first uplink whether the communication quality of the first uplink is acceptable (see column 3 and line 21-37);

Obtaining a measurement of a first downlink signal strength received by the first radio terminal (see column 4 and lines 10-31);

Determining in dependence of the measured first downlink signal strength is acceptable (see column 33-36); and

Determining that the first uplink is subject to a Rayleigh fading dip, if the communication quality of the first uplink is not acceptable and the first downlink signal strength is acceptable (see column 37-56).

With respect to claims 11/1 and 43/33, Whinnett further discloses obtaining a quality estimate of the first downlink; determining in dependence of the quality estimate of the first downlink whether the communication quality of the first downlink is acceptable (see column 4 and lines 10-32);

Obtaining a measurement of a first uplink signal strength received by the first radio base station; determining in dependence of the measured first uplink signal strength whether the first uplink signal strength is acceptable (see column 3 and lines 20-29); and

Determining that the first downlink is subject to a Rayleigh fading dip, if the communication quality of the first downlink is not acceptable and the first uplink signal strength is acceptable (see column 3 and lines 24-40).

With respect to claims 11/1916 and 43/33/42, Whinnett further discloses obtaining a quality estimate of the first downlink; determining in dependence of the quality estimate of the

first downlink whether the communication quality of the first downlink is acceptable (see column 4 and lines 10-32);

Obtaining a measurement of a first uplink signal strength received by the first radio base station; determining in dependence of the measured first uplink signal strength whether the first uplink signal strength is acceptable (see column 3 and lines 20-29); and

Determining that the first downlink is subject to a Rayleigh fading dip, if the communication quality of the first downlink is not acceptable and the first uplink signal strength is acceptable (see column 3 and lines 24-40).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whinnett et al (US005625875) in view of Bustamante et al (US Patent# 4,752,967).

With respect to claim 2 and 34, Whinnett discloses an analogous method and apparatus as recited in claim 1 and 33. Whinnett doesn't disclose obtaining a gain of first uplink and downlink; and comparing the gain of the first uplink to the gain of the first downlink in order to deduce whether one of the first uplink or the first downlink is subject to a Rayleigh fading dip.

Bustamante discloses obtaining a gain of first uplink and downlink; and comparing the gain of the first uplink to the gain of the first downlink in order to deduce whether one of the first

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uplink or the first downlink is subject to distortion and fading from the surrounding environment (see column 1 and lines 18-26, column 2 and lines 31-63).

It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teaching of Bustamante with Whinnett's method and apparatus such that received error signal is easily detected and further action would be determined.

Allowable Subject Matter

7. Claims 3-8,35-40 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record doesn't teach determining whether a link is subject to a Rayleigh fading dip by monitoring how the difference between the gain of the first uplink and the gain the first downlink deviates from the offset (see applicant's remark, page 22, last paragraph and page 23, paragraph 1 and 2).

8. Claims 27-32, and 59-64 are allowed.

9. The following is an examiner's statement of reasons for allowance: same as above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuwen Pan whose telephone number is 703-305-7372. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Yuwen Pan
April 5, 2004


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